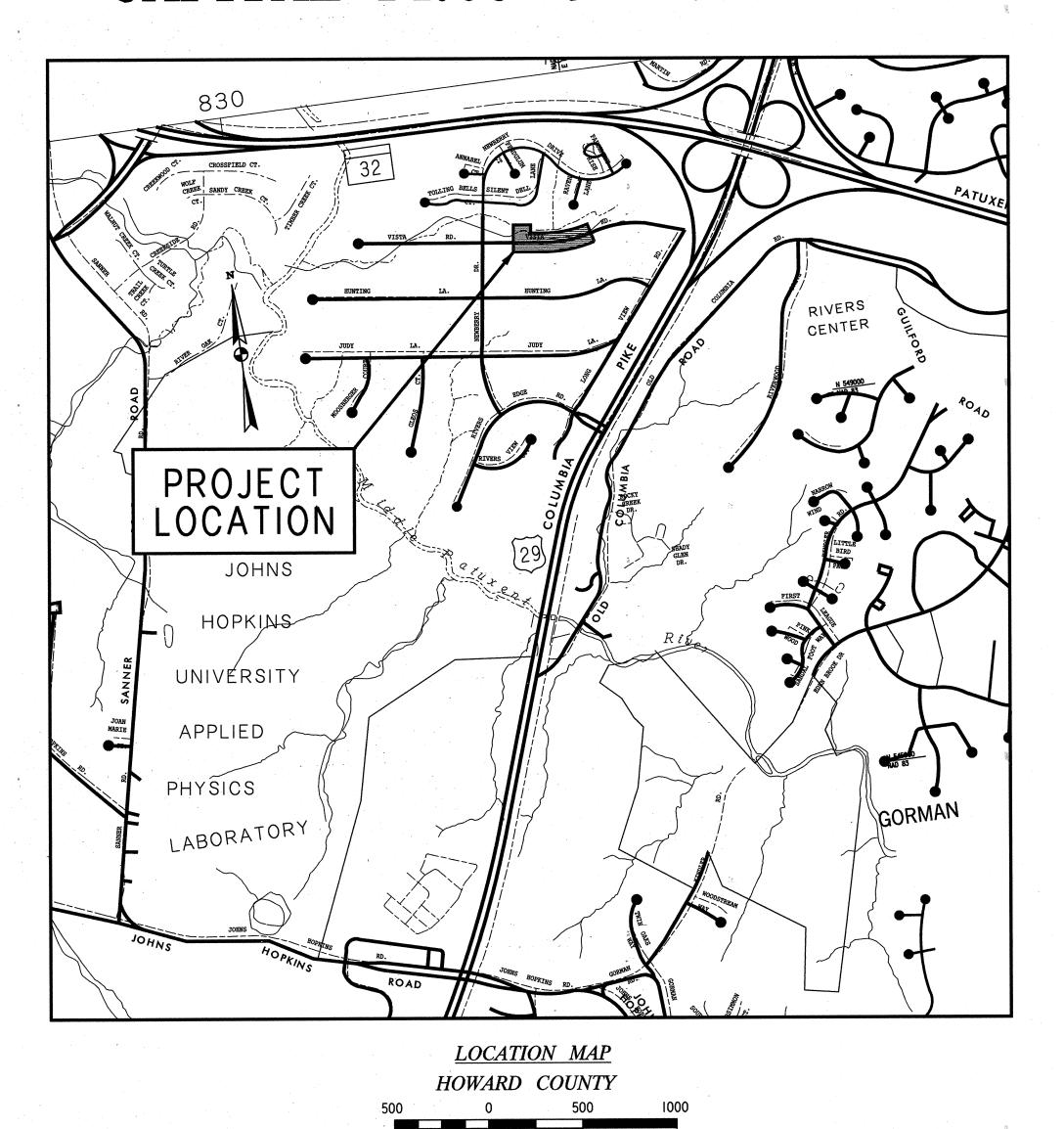
STORM DRAIN IMPROVEMENTS AT VISTA ROAD

INDEX OF DRAWINGS

- 1. TITLE SHEET
- 2. STORM DRAIN PLAN
- 3. STORM DRAIN PROFILE
- 4. STRUCTURE SCHEDULE AND MISCELLANEOUS DETAILS
- 5. EROSION AND SEDIMENT CONTROL PLAN
- 6. EROSION AND SEDIMENT CONTROL DETAILS

5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND CAPITAL PROJECT NO. D-1108



SCALE: 1" = 500'

REVISION

GENERAL NOTES

- 1. THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 AND MISS UTILITY AT 1-800-257-7777 AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK
- 2. THE HORIZONTAL AND VERTICAL CONTROL FOR THESE PLANS ARE BASED ON THE MARYLAND STATE SYSTEM OF PLANE COORDINATES AS ESTABLISHED FROM HOWARD COUNTY CONTROL STATION NO. 0057 (ELEVATION 399.583), N 550,835.213, E 1,347,017.689 BEING A MONUMENT SET ON THE WEST SIDE OF RTE 29 AT VISTA AND LONGVIEW ROADS. CONTROL STATION NO. 41C2 (ELEVATION 395.851), N 551,616.404, E 1,348,104.227 BEGIN A MONUMENT SET IN THE MEDIAN OF RTE 32, 100+ FEET EAST OF RTE 29.
- 3. ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
- 4. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY.
- 5. ALL WORK SHALL COMPLY WITH ALL APPLICABLE PROVISIONS OF THE "1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL," ISSUED BY THE WATER RESOURCES ADMINISTRATION AND THE NATURAL RESOURCES CONSERVATION SERVICE.
- 6. TOPOGRAPHIC SURVEYS WERE PERFORMED BY URS CORPORATION IN 1999.
- 7. THE PROPERTY LINES WERE TAKEN FROM UTILITY PLANS, PROPERTY PLATES AND TAX MAPS AND CAN NOT BE CONSIDERED ACCURATE.
- 8. SHOULD THE CONTRACTOR DISCOVER DISCREPANCIES BETWEEN THE PLANS AND THE FIELD CONDITIONS, THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY TO RESOLVE THE SITUATION. SHOULD THE CONTRACTOR MAKE FIELD CORRECTIONS OR ADJUSTMENTS WITHOUT NOTIFYIN THE ENGINEER, THEN THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR THOSE CHANGES
- 9. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHOD, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- 10. APPROXIMATE UTILITIES ARE SHOWN FROM AVAILABLE RECORDS. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
- 11. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- 12. TWO WAY TRAFFIC SHALL BE MAINTAINED ALONG VISTA ROAD AT ALL TIMES. ACCESS TO PRIVATE DRIVEWAYS SHALL ALSO BE MAINTAINED AT ALL TIMES. REFER TO HOWARD COUNTY STANDARD TE-11 FOR TRAFFIC CONTROL PLAN.
- 13. ALL PIPE TRENCHES SHALL BE PROPERLY SUPPORTED TO PROTECT PRIVATE PROPERTY
- 14. PAVEMENT AND CURBING REMOVED DURING THE INSTALLATION OF THE STORM DRAIN SHALL BE REPLACED IN KIND. THE COST SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE PIPE. REFER TO HOWARD COUNTY STANDARD G4.01.
- 5. MAILBOXES REMOVED TO ACCOMODATE THE CONSTRUCTION SHALL BE RESET AT THEIR ORIGINAL LOCATION. THIS EFFORT SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE PIPE.

DEPARTMENT OF PUBLIC WORKS

HOWARD COUNTY, MARYLAND

11/25/03

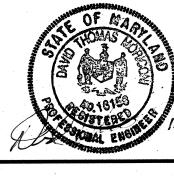
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TITLE SHEET

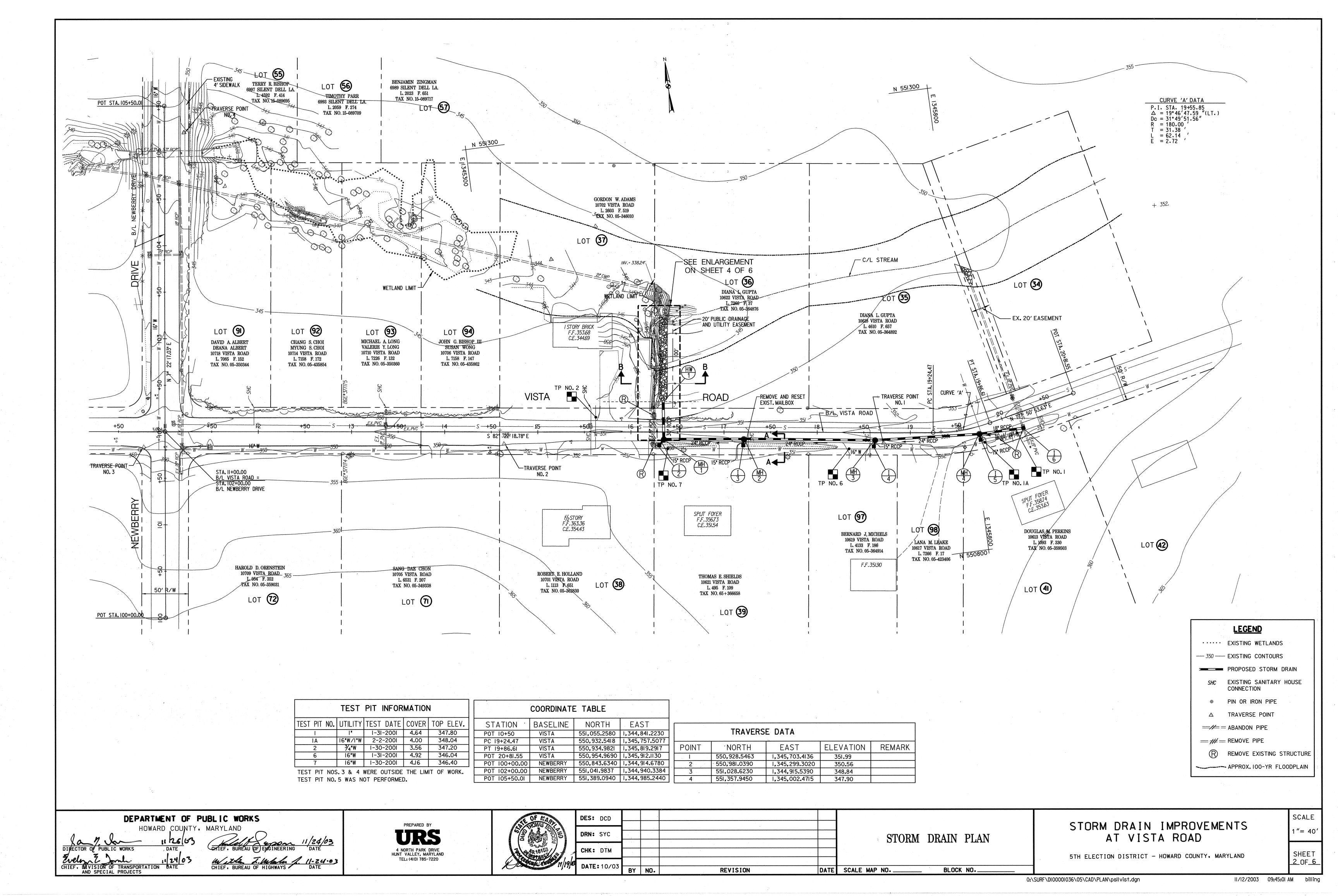
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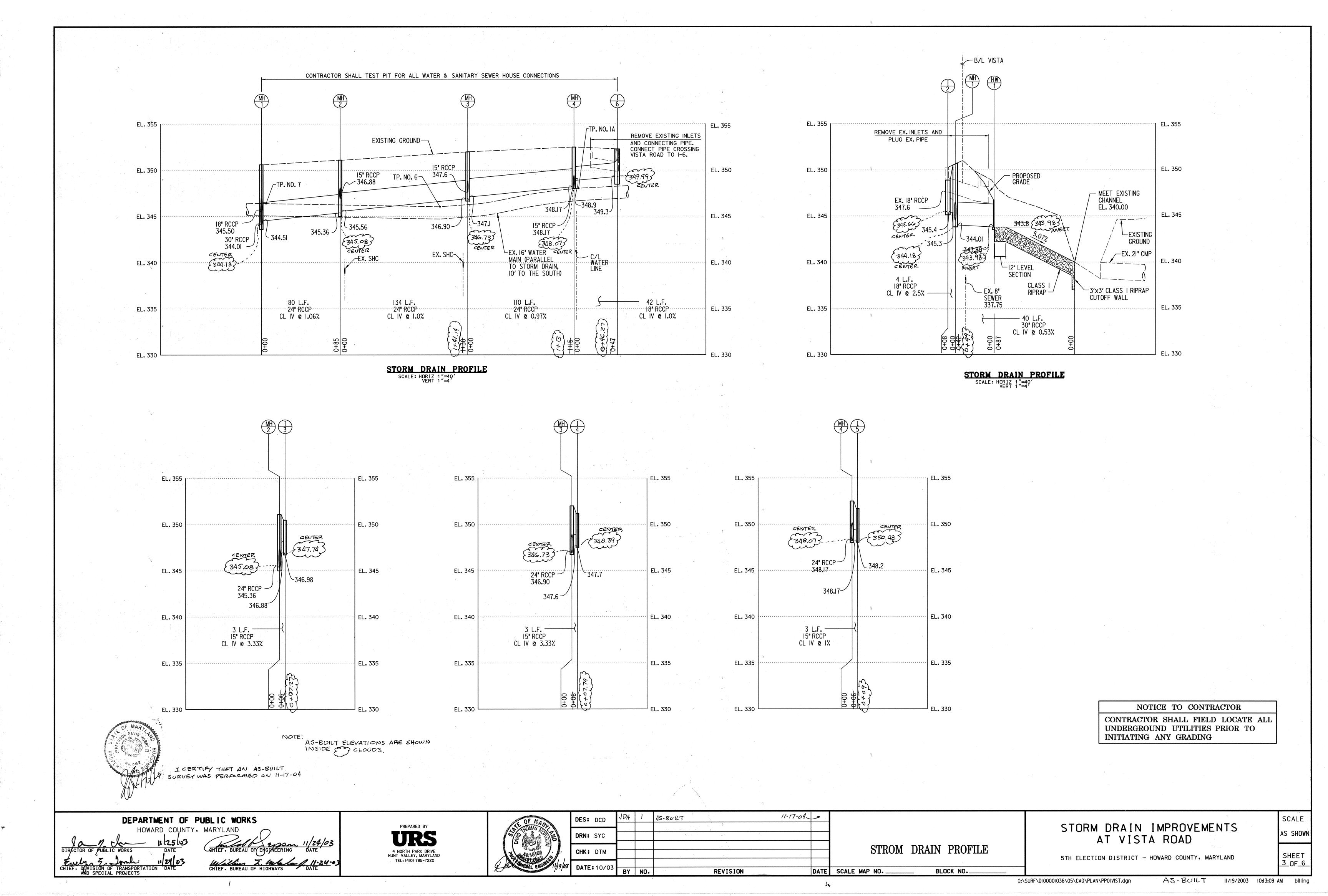
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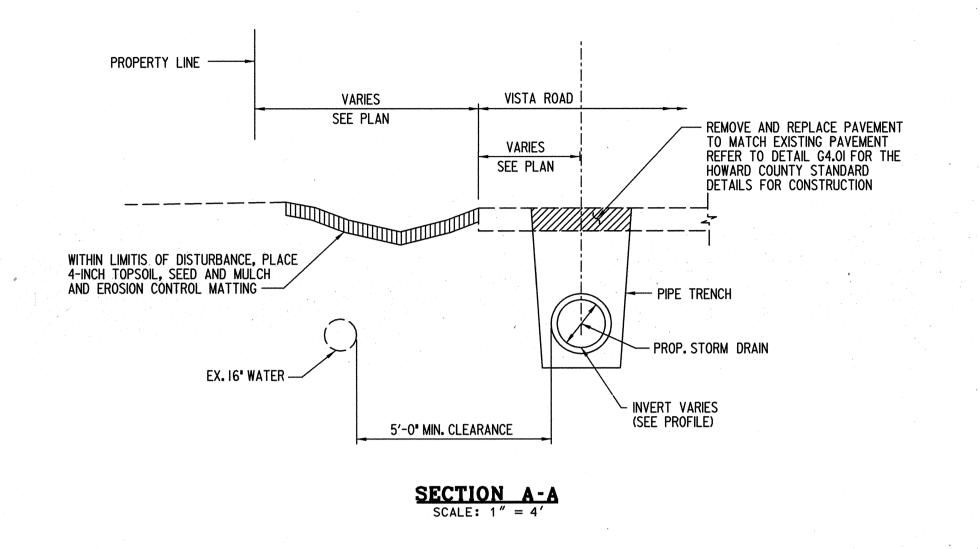
STORM DRAIN IMPROVEMENTS AT VISTA ROAD

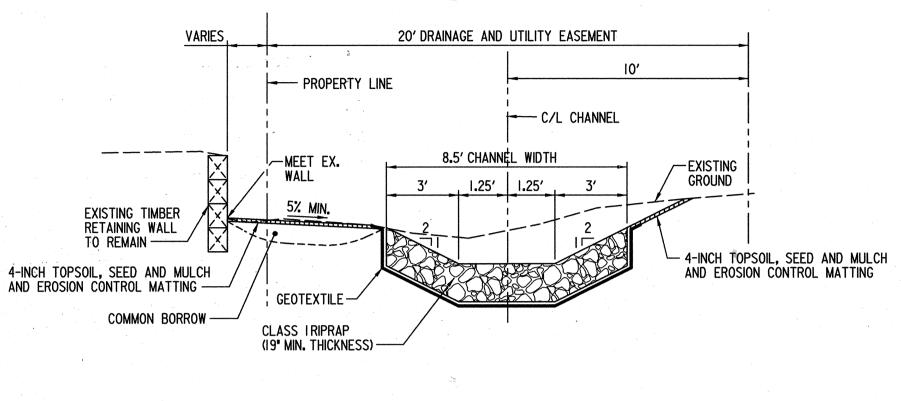
5TH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

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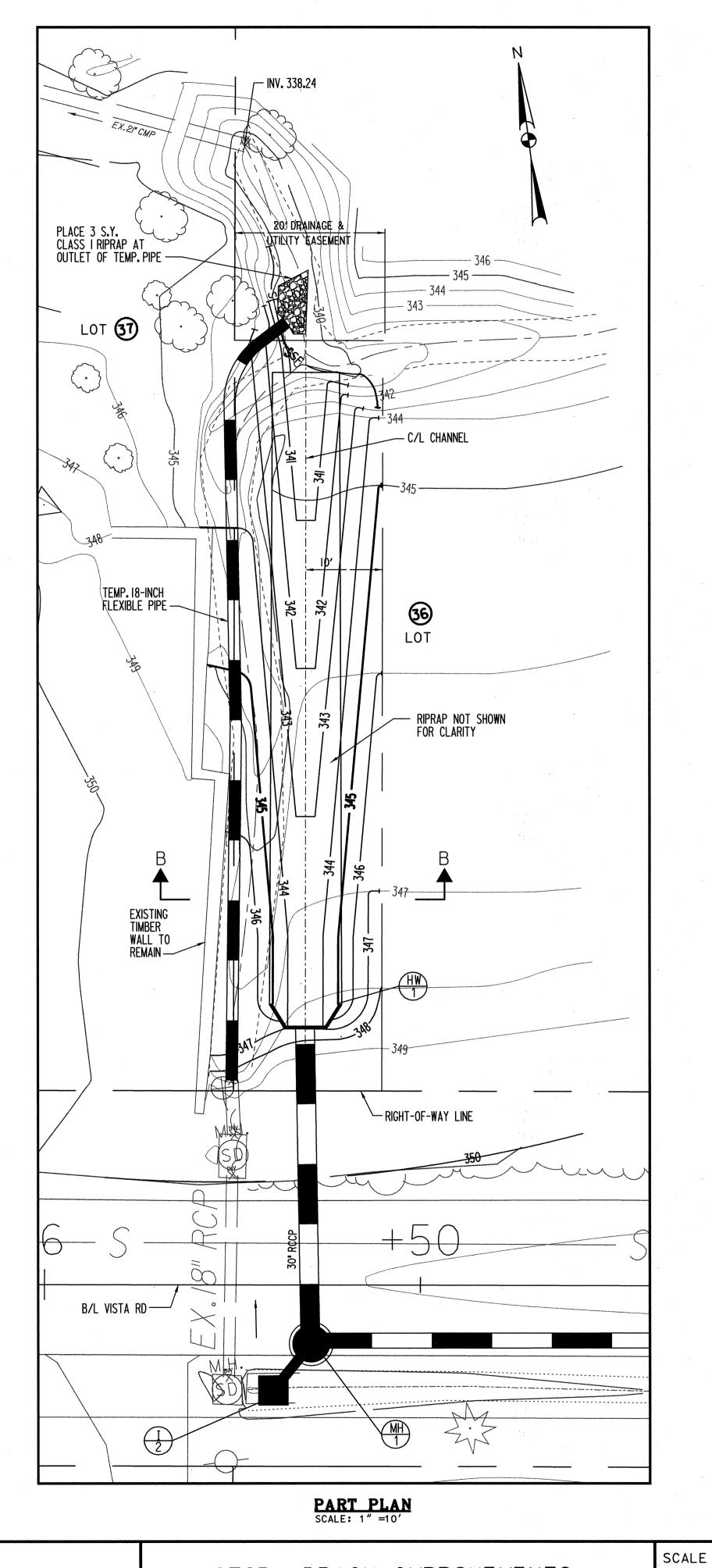


NOTE: SIDE SLOPES OF CHANNEL MAY VARY TO MEET FIELD CONDITIONS.

STRUCTURE SCHEDULE

STRUCTURE NO.	TYPE	LOCATION	INV. IN	INV. OUT	TOP ELEV.	REMARKS
I-2	'S' INLET	STA.16+30.45, 14.04' RT.		345.40 (18")	348.0	HOCO STD. DETAIL SD 4.22
I-3	'S' INLET	STA. 17+20.69, 13.93' RT.		346.98 (15")	350.48	HOCO STD. DETAIL SD 4.22
1-4	'S' INLET	STA. 18+60.87, 14.90' RT.		347.70 (15")	351.2	HOCO STD. DETAIL SD 4.22
I-5	'S' INLET	STA. 19+72.26. 14+52′ RT.		348.20 (15")	351.65	HOCO STD. DETAIL SD 4.22
I-6	'S' INLET	STA. 20+81.59, 17.21' RT.		348.8 (24")	352.3	HOCO STD. DETAIL SD 4.22
HW-I	TYPE 'A' HEADWALL	STA. 16+34.50, 34.50' LT.	<u></u>	343.8 (30")		HOCO STD. DETAIL SD 5.11
MH-I	SHALLOW BRICK MANHOLE	STA.16+35.49, 7.83' RT.	344.51 (30")	344.01 (30")	350.6	HOCO STD. DETAIL G5.05
MH-2	SHALLOW BRICK MANHOLE	STA. 17+21.32, 7.44' RT.	345.56 (24")	345.36 (24")	351.1	HOCO STD. DETAIL G5.05
MH-3	SHALLOW BRICK MANHOLE	STA.18+62.32, 8.44' RT.	347.10 (24")	346.90 (24")	352.0	HOCO STD. DETAIL G5.05
MH-4	SHALLOW BRICK MANHOLE	STA.19+72.58, 8.10' RT.	348.40 (24")	348.17 (24")	352.5	HOCO STD. DETAIL: G5.05

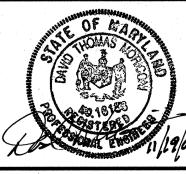
* ALL TOP AND INVERT ELEVATIONS SHALL BE FIELD VERIFIED



HORIZ 1"=40' VERT 1"=4'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND





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EROSION AND SEDIMENT CONTROL DETAILS

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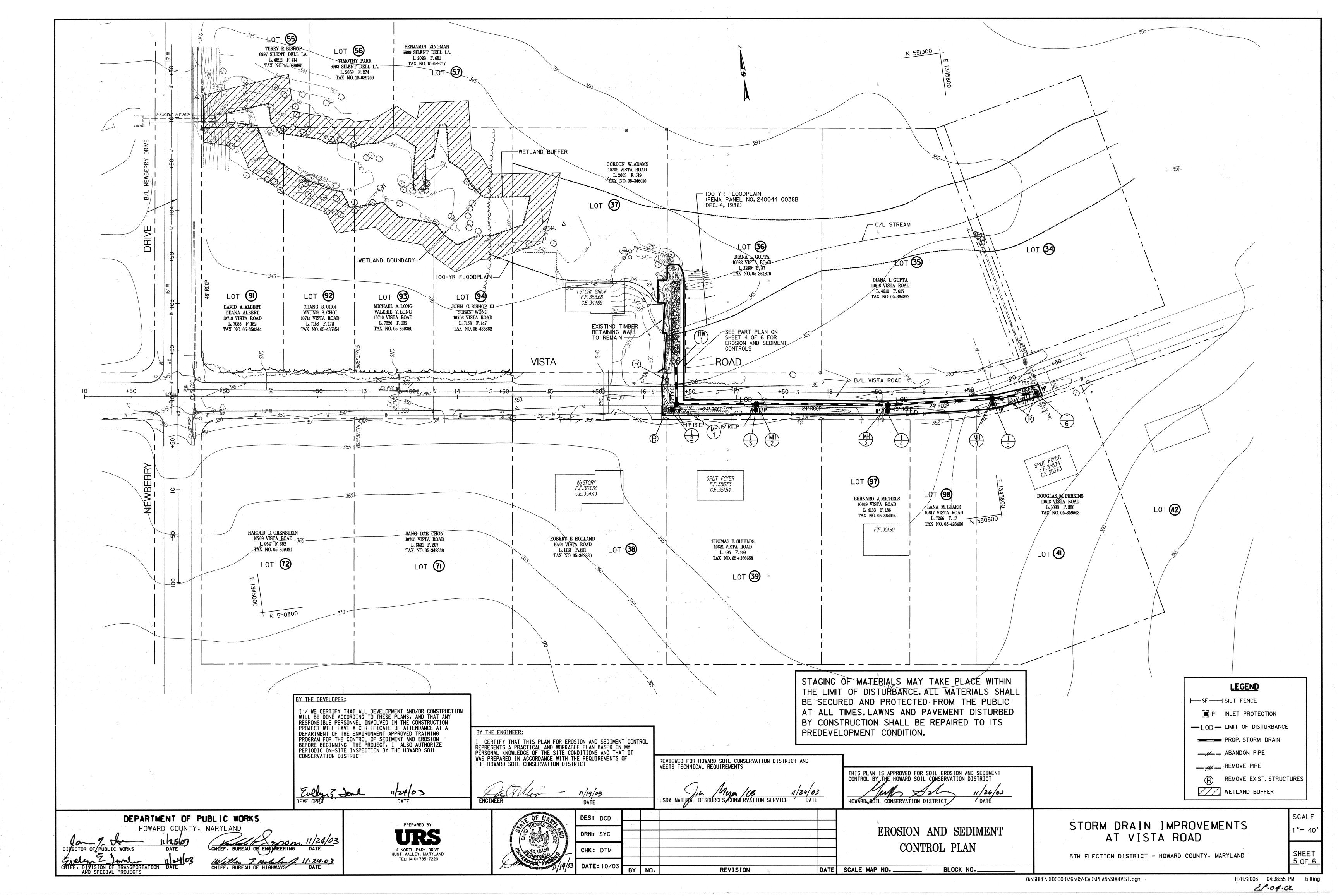
STORM DRAIN IMPROVEMENTS AT VISTA ROAD

5TH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

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PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is

Seedbed preparation: Loosen upper 3 inches of soil by raking, discing, or other acceptable means before seeding. If not previously

<u>Soil amendments:</u> in lieu of soil test recommendations, use one of the following schedules:

- 1) Preferred apply 2 tons per acre dolomitic limestone (92 lbs. per 1,000 square feet) and 600 lbs. per acre 10-10-10 fertilizer (14 upper 3 inches of soil. At time of seeding, apply 400 lbs. Per acre 30-0-0 ureaform fertilizer (9 lbs. per 1,000 square feet).
- Acceptable apply 2 tons per acre dolomitic limestone (92 lbs. per 1,000_square_feet) and 1,000 lbs. per acre 10-10-10 fertilizer (23 Ibs. Per 1,000 square feet) before seeding. Harrow or disc into

Seeding: for the period March 1 through April 30 and from August 1 through October 15, seed with 60 lbs. per_acre (1.4 lbs. per 1.000 square feet) of Kentucky 31 tall fescue. For the period may 1 through July 31, seed with 60 lbs. Kentucky 31 tall fescue per acre and 2 lbs. per acre (0.05 lbs. per 1.000 square feet) of weeping lovegrass. During the period October 16 through February 28, protect site by one of the

- 1) 2 tons per acre of well-anchored mulch straw and seed as soon as possible in the spring.
- 3) Seed with 60 lbs. per acre Kentucky 31 tall fescue and mulch with 2 tons per acre well anchored straw.

Mulching: apply $1\frac{1}{2}$ to 2 tons per acre (70 to 90 lbs. per 1,000 square feet) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gallons per 1,000 square feet) of emulsified asphalt on flat areas. On slopes, 8 feet or higher, use 347 gallons per acre (8 gallons per 1,000 square feet) for anchoring.

Maintenance: inspect all seeded areas and make needed repairs. replacements, and reseedings.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redistributed where a

Seedbed preparation: loosen upper 3 inches of soil by raking, discingor other acceptable means before seeding.

Soil amendments: apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per

<u>Seeding:</u> For periods March 1 through April 30 and from August 15 through November 15, seed with $2^{1}/2$ bushels per acre of annual rye (3.2 lbs. per 1.000 square feet). For the period may 1 through august 14, seed with 3 lbs. per acre of weeping lovegrass (0.07 lbs. per 1.000 square feet). For the period November 16 through February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring or use sod.

Mulching: Apply $1\frac{1}{2}$ to 2 tons per acre (70 to 90 lbs. per 1,000 square feet) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gallons per 1,000 square feet) of emulsified asphalt on flat areas. On slopes, 8 feet or higher, use 347 gallons per acre (8 gallons per 1,000 square feet) for anchoring Refer to the 1994 Maryland standards and specifications for soil erosion and sediment control for rate and methods not covered. Refer to the 1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control for additional rates and methods not covered.

TOPSOIL SPECIFICATIONS

SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:

- 1. TOPSOIL SHALL BE LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1-1/2 INCHES IN DIAMETER.
- 2. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS AS BERMUDA GRASS, QUACKGRASS, JOHNSONGRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
- . WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS /ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.
- 4. FOR SITES WITH DISTURBED AREAS UNDER 5 ACRES, PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS OF THE "1994 STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

TOPSOIL APPLICATION:

AND SPECIAL PROJECTS

- A.WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE, AND SEDIMENT TRAPS AND BASINS.
- B.GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4" - 8" HIGHER IN ELEVATION.
- C. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" 8" AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
- D. TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

STANDARD SEDIMENT CONTROL NOTES

- A minimum of 48 hours notice must be given to the Howard County department of inspections, licenses and permits, sediment control division prior to the start of any construction (410-313-1855).
- 2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1994 Maryland standards and specifications soil erosion and sediment control and revisions thereto.
- 3. Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within:
- a) 7 calendar days for all perimeter sediment control structures. dikes, perimeter slopes, and all slopes steeper than 3:1.
- b) 14 days as to all other disturbed or graded areas on the
- 4. All sediment traps/basins shown must be fenced and warning signs posted around the perimeter in accordance with volume 1, chapter 7, of the Howard County design manual, storm drainage.
- 5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 Maryland standards and specifications for soil erosion and sediment control for permanent seeding, sod, temporary seeding, and mulching (section g), temporary stabilization with mulch alone shall only be done when

recommended seeding dates do not allow for proper germination and

- 6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for there removal has been obtained from the Howard county sediment control inspector.
- 7. Site analysis:

Total Area of Site - 0.22 acres Area disturbed - 0.22 acres Areas to be roofed or paved-0.12 acres Area to be vegetatively stabilized - 0.10 acres
Total cut - 150 c.y.
Total fill - 50 c.y. Off-site waste site - Howard County landfill Off-site borrow site - approved site

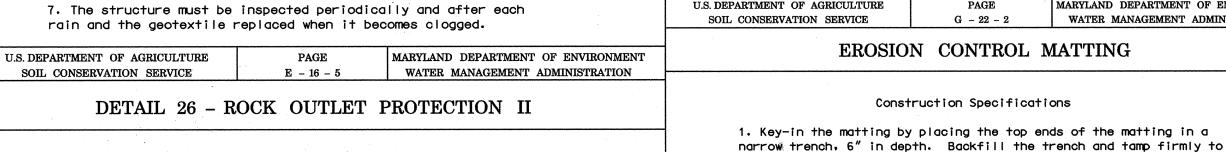
- 8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day
- Additional sediment controls must be provided. if deemed necessary by the Howard county sediment control inspector.
- 10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized unti this initial approval by the inspection agency is made.
- 11. Trenches for the construction of utilities is limited to three pipe lengths or that which shall be backfilled and stabilized within one working day, whichever is shorter.
- 12. Site grading will begin only after all perimeter sediment control measures have been installed and are in a functioning condition.
- 13. Construction within, along or across stream channels shall, as a minimum. confirm to criteria described under "Maryland's Guidelines to Waterway

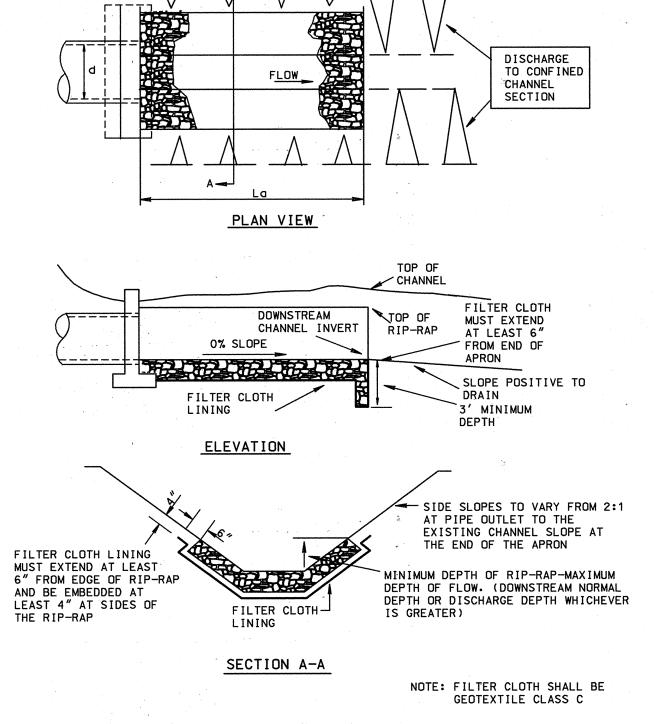
SEQUENCE OF CONSTRUCTION

- 1. OBTAIN THE NECESSARY PERMITS (GRADING & EROSION AND SEDIMENT CONTROL) PRIOR TO CONSTRUCTION. (1 DAY)
- INSTALL TEMPORARY 18-INCH FLEXIBLE PIPE AND RIPRAP OUTFALL PROTECTION AS SHOWN ON PART PLAN. SHEET 4 OF 6. PIPE MAY BE
- ADJUSTED TO ACCOMODATE CONSTRUCTION. (3 DAYS) 3. INSTALL SUPER SILT FENCE AT CHANNEL OUTFALL. (1 DAY)
- 4. CLEAR AND GRUB THE SITE AS NEEDED. (2 DAYS)
- 5. TEST PIT LOCATION OF ALL WATER SERVICES CONNECTIONS TO LOTS 35.
- 6. INSTALL STORM DRAIN SYSTEM BEGINNING WITH RIPRAP OUTFALL AND PROGRESS UPSTREAM. THE CONTRACTOR SHALL LIMIT LENGTH OF DISTURBANCE TO THREE PIPE LENGTHS AT ANY GIVEN TIME. IMMEDIATELY STABILIZE ALL GRASS AREAS WITH EROSION CONTROL MATTING. (2 WEEKS)
- 7. STABILIZE THE REMAINING DISTURBED AREAS WITH TOPSOIL, PERMANENT SEEDING AND MULCHING, AND EROSION CONTROL MATTING AS NEEDED. (1 WEEK)
- 8. UPON THE HOWARD CO. INSPECTOR'S APPROVAL, REMOVE ALL SEDIMENT EROSION CONTROL DEVICES AND STABILIZE THE REMAINING AREAS WITH PERMANENT SEEDING. (1 WEEK)

DETAIL 23A - STANDARD INLET PROTECTION EDGE OF ROADWAY OR TOP OF EARTH DIKE 2" X 4" FRAMING 6" MINIMUM -TOP ELEVATION -NOTCH ELEVATIO * * * EXCAVATE. BACKFILL AND COMPACT EARTH POST DRIVEN INTO GROUND L STANDARD SYMBOL GEOTEXTILE CLASS E SIP MAX. DRAINAGE AREA = 1/4 ACRE Construction Specifications 1. Excavate completely around the inlet to a depth of 18" below the 2. Drive the 2" x 4" construction grade lumber posts 1' into the around at each corner of the inlet. Place nail strips between the posts on the ends of the inlet. Assemble the top portion of the 2" x 4" frame using the overlap joint shown on Detail 23A. The top of the frame (weir) must be 6" below adjacent roadways where flooding and safety issues may arise. 3. Stretch the $1/2" \times 1/2"$ wire mesh tightly around the frame

and fasten securely. The ends must meet and overlap at a 4. Stretch the Geotextile Class E tightly over the wire mesh with the geotixtile extending from the top of the frame to 18" below the inlet notch elevation. Fasten the geotextile firmly to the frame. The ends of the geotextile must meet at a post, be overlapped and folded, then fastened down. 5. Backfill around the inlet in compacted 6" layers until the layer of earth is level with the notch elevation on the ends and top elevation on the sides. 6. If the inlet is not in a sump, construct a compacted earth dike across the ditch line directly below it. The top of the earth dike should be at least 6" higher than the top of the frame.

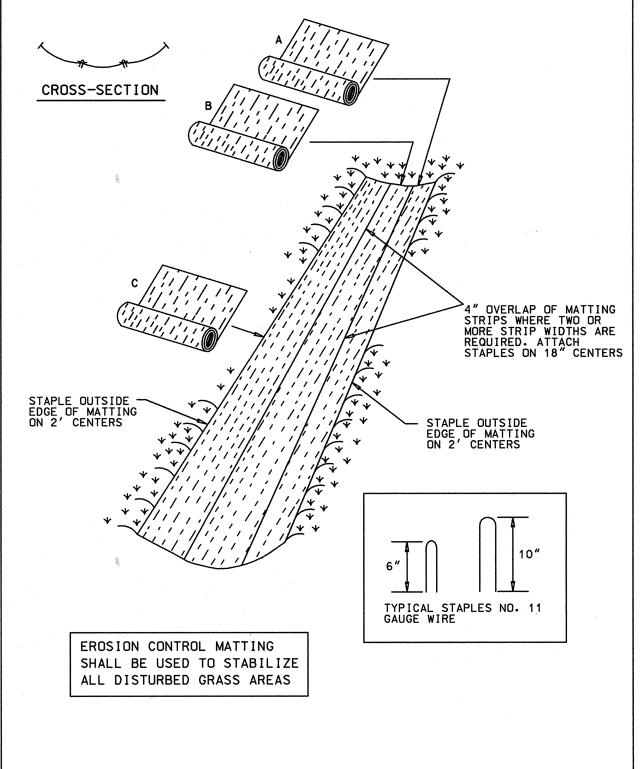




U.S. DEPARTMENT OF AGRICULTURE MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION SOIL CONSERVATION SERVICE F - 18 - 9CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY

MEETS TECHNICAL REQUIREMENTS

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND



DETAIL 30 - EROSION CONTROL MATTING

FENCE SECTIONS Construction Specifications 1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be $1^{1}/2'' \times 1^{1}/2'''$ square (minimum) cut, or $1^{3}/4''$ diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot. 2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F: Test: MSMT 509 50 lbs/in (min.) Tensile Strength Test: MSMT 509 20 lbs/in (min.) Tensile Modulus 0.3 gal ft2/ minute (max.) Test: MSMT 322 Flow Rate Filtering Efficiency 75% (min.) Test: MSMT 322 3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.

DETAIL 22 - SILT FENCE

36" MINIMUM FENCE-

FLOW

A MINIMUM OF 8" VERTICALLY **↓**I

INTO THE GROUND

118118118118118118118118

POST LENGTH

10' MAXIMUM CENTER TO

— CENTER.

PERSPECTIVE VIEW

TOP VIEW

POSTS T

STAPLE

JOINING TWO ADJACENT SILT

SECTION A

-36" MINIMUM LENGTH FENCE POST.

-16" MINIMUM HEIGHT OF

GEOTEXTILE CLASS F

■ 8" MINIMUM DEPTH IN

 FENCE POST SECTION MINIMUM 20" ABOVE

TISTISTISTISTISTISTIS

- FENCE POST DRIVEN A

STANDARD SYMBOL

MINIMUM OF 16" INTO

UNDISTURBE

GROUND

_ THE GROUND

CROSS SECTION

GROUND

CLOTH -

DRIVEN A MINIMUM OF 16" INTO

4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

MARYLAND DEPARTMENT OF ENVIRONME SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION DETAIL 33 - SUPER SILT FENCE

EMBED FILTER CLOTH 8"____

required except on the ends of the fence.

every 24" at the top and mid section.

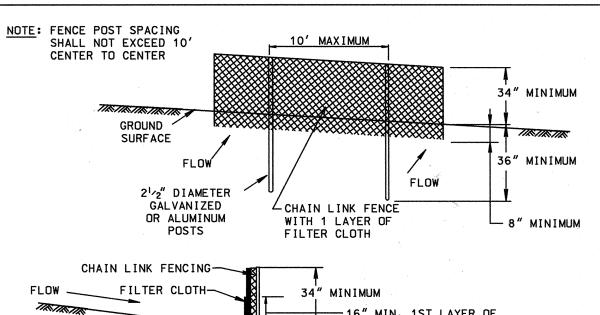
by 6" and folded.

Geotextile Class F:

MINIMUM INTO GROUND

* IF MULTIPLE LAYERS ARE

REQUIRED TO ATTAIN 42



Construction Specifications

. Fencing shall be $42^{\prime\prime}$ in height and constructed in accordance with the

for a 6' fence shall be used, substituting 42" fabric and 6' length

4. Filter cloth shall be embedded a minimum of 8" into the ground.

develop in the silt fence, or when silt reaches 50% of fence height

latest Maryland State Highway Details for Chain Link Fencing. The specification

2. Chain link fence shall be fastened securely to the fence posts with wire ties.

The lower tension wire, brace and truss rods, drive anchors and post caps are not

3. Filter cloth shall be fastened securely to the chain link fence with ties spaced

5. When two sections of filter cloth adjoin each other, they shall be overlapped

7. Filter cloth shall be fastened securely to each fence post with wire ties or

staples at top and mid section and shall meet the following requirements for

Maintenance shall be performed as needed and silt buildups removed when "bulges"

- 16" MIN. 1ST LAYER OF

STANDARD SYMBOL

--- SSF ----

FILTER CLOTH*

5. Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4", shiplap fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.

conform to the channel cross-section. Secure with a row of staples

about 4" down slope from the trench. Spacing between staples is 6".

2. Staple the 4" overlap in the channel center using an 18" spacing

3. Before stapling the outer edges of the matting, make sure the

4. Staples shall be placed 2' apart with 4 rows for each strip, 2

matting is smooth and in firm contact with the soil.

outer rows, and 2 alternating rows down the center.

6. The discharge end of the matting liner should be similarly secured with 2 double rows of staples. Note: If flow will enter from the edge of the matting then the area

effected by the flow must be keyed-in-

U.S. DEPARTMENT OF AGRICULTURE MARYLAND DEPARTMENT OF ENVIRONMENT SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION

ROCK OUTLET PROTECTION II

Construction Specifications

1. The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material. 2. The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter.

3. Geotextile shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged part or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot

4. Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for rip-rap or gabion outlets shall be delivered and placed in a manner hat will ensure that it is reasonably homogeneous with the smaller stones and spalls filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile. Hand placement will be required to the extent necessary to prevent damage to the permanent works.

5. The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the flow will be forced out of the channel and scour adjacent to the stone will occur.

4/26/05

MARYLAND DEPARTMENT OF ENVIRONMENT PAGE WATER MANAGEMENT ADMINISTRATION F - 18 - 9A

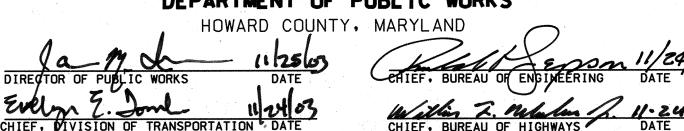
MARYLAND DEPARTMENT OF ENVIRONMENT

WATER MANAGEMENT ADMINISTRATION

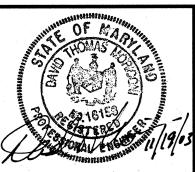
Tensile Strength 50 lbs/in (min.) 20 lbs/in (min.) Tensile Modulus 0.3 gal/ft²/minute (max.) Flow Rate Filtering Efficiency 75% (min.) U.S. DEPARTMENT OF AGRICULTURE MARYLAND DEPARTMENT OF ENVIRONMEN WATER MANAGEMENT ADMINISTRATION SOIL CONSERVATION SERVICE H - 26 - 3SUPER SILT FENCE Design Criteria

Silt Fence Length Slope Slope Length Slope Steepness (maximum) (maximum) 0 - 10:1 Unlimited 0 - 10% Unlimited 10 - 20% 10:1 - 5:1 200 feet 1,500 feet 20 - 33% 5:1 - 3:1 100 feet 1,000 feet 100 feet 500 feet 33 - 50% 3:1 - 2:1 50% + 2:1 + 50 feet 250 feet U.S. DEPARTMENT OF AGRICULTURE MARYLAND DEPARTMENT OF ENVIRONM SOIL CONSERVATION SERVICE WATER MANAGEMENT ADMINISTRATION SCALE

DEPARTMENT OF PUBLIC WORKS



PREPARED BY 4 NORTH PARK DRIVE HUNT VALLEY, MARYLAND TEL: (410) 785-7220



PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT

DATE /

WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF

THE HOWARD SOIL CONSERVATION DISTRICT

BY THE ENGINEER:

DES: DCD DRN: SYC CHK: DTM **DATE: 10/0** DATE SCALE MAP NO. BY NO. REVISION

EROSION AND SEDIMENT CONTROL DETAILS

BLOCK NO._

THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

HOWARD SOIL CONSERVATION DISTRICT

U.S. DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

STORM DRAIN IMPROVEMENTS AT VISTA ROAD

5TH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND

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II/II/2003 04:46:26 PM billing

NONE

SHEET

<u>6</u> OF <u>6</u>

Test: MSMT 509

Test: MSMT 509

Test: MSMT 322

Test: MSMT 322

EP.04.02

I / WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY

RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION

PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A

DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING

PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION

BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE

PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL

BY THE DEVELOPER:

CONSERVATION DISTRICT